

18. Average firing rate: _____ gal/hr	19. Maximum firing rate: _____ gal/hr
Operation	
20. Application: ? Electric generation _____ Base load _____ Peaking ? Driving pump/compressor ? Exhaust heat recovery ? Other (specify) _____	21. Cycle ? Simple cycle ? Regenerative cycle ? Cogeneration ? Combined cycle
22. Is turbine equipped with exhaust heat recovery equipment? ? Yes ? No If yes, supply the size, flow rate, steam output capacity and temperature profile.	
23. Is turbine equipped with duct burners? ? Yes ? No If yes, provide burner description, fuel usage, combustion air input and location of the burners. Show all heat transfer surface locations with the waste heat boiler and temperature profile.	
Emissions Data	
24. Attach manufacturer's information showing emissions of NO _x , CO, VOC, SO _x and PM ₁₀ for each proposed fuel at turbine loads and site ambient temperatures representative of the range of proposed operation. The information must be sufficient to determine maximum hourly and annual emission rates. Annual emissions may be based on a conservatively low approximation of site annual average temperature. Provide emissions in pounds per hour and except for PM ₁₀ , parts per million by volume at actual conditions <u>and</u> corrected to dry, 15% oxygen conditions.	
Method of Emission Control: ? Lean premix combustors ? Oxidation catalyst ? Water injection ? Other (specify) ? Other low-NO _x combustor ? SCR catalyst ? Steam injection _____	
Additional Information	
25. On separate sheets provide the following: A. Details regarding principle of operation of emission controls. If add-on equipment is used, provide make and model and manufacturer's information. Example details include: controller input variables and operational algorithms for water or ammonia injection systems, combustion mode versus turbine load for variable mode combustors, etc. B. Exhaust parameter information on attached form.	
Emissions Calculations (PTE)	
26. Calculated emissions for this device PM ₁₀ _____ Lbs/hr _____ Tons/yr NO _x _____ Lbs/hr _____ Tons/yr SO _x _____ Lbs/hr _____ Tons/yr VOC _____ Lbs/hr _____ Tons/yr HAPs _____ Lbs/hr (speciate) _____ Tons/yr (speciate) Submit calculations as an appendix.	

NOTE: 1. Submit this form in conjunction with Form 1 and Form 2.

2. Call the Division of Air Quality (DAQ) at **(801) 536-4000** if you have problems or questions in filling out this form.

Ask to speak with a New Source Review engineer. We will be glad to help!

Instructions

1. Indicate the manufacturer and the model number of the equipment.
2. Complete the fuel burning equipment's average and maximum operating schedule in hours per day, days per week, and weeks per year.
3. Specify the manufacturer's rated output and heat rate at baseload corresponding to International Standard Organization (ISO) conditions in megawatts (MW) or horsepower (hp). Also indicated what the proposed site operating range is in megawatts or horsepower.
4. Supply the percent of annual heat input by season for a year's time. The four seasons should total to 100%.
5. Indicate what the origin of the gas used in the turbine is.
6. Indicate if the gas supply can be interrupted and what the backup fuel is in case this happens.
7. Specify what the annual consumption of fuel is in standard cubic feet.
8. Indicate what the heat content is of the fuel.
9. Indicate what percent of sulfur is in the fuel.
10. Supply the maximum firing rate in standard cubic feet.
11. Supply the average firing rate in standard cubic feet.
12. Indicate the grade of oil being used.
13. Supply the annual consumption calculated in gallons of oil.
14. Indicate the heat content of the oil in BTU/lb or BTU/gal.
15. Indicate the sulfur content of the oil in percent by weight.
16. Indicate the ash content of the oil.
17. Indicate what the firing direction is.
18. Supply the average firing rate of oil.
19. Supply the maximum firing rate of oil.
20. Indicate what the turbine will be used for.
21. Indicate what type of cycle the turbine will have.
22. Indicate whether or not the turbine is equipped with exhaust heat recovery equipment and what the specifications of that equipment is.
23. Indicate whether or not the turbine is equipped with duct burners and provide specifications on the burners.
24. Provide manufacturer's emission information for the turbine. Also indicate what method of emission control will be used.
25. Provide details of the operation of emission controls and exhaust parameter information.
26. Supply calculations for all criteria pollutants and HAPs. Use AP42 or Submit the Manufacturers data used to complete your calculations.

f:\aq\engineer\generic\22_turbi.frm
revised 9/6/02